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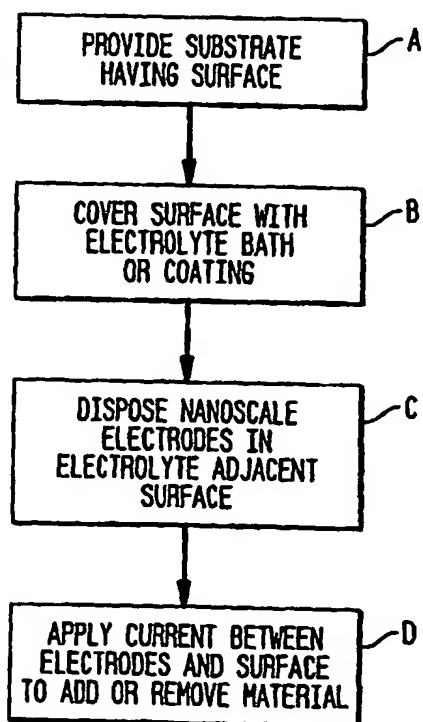
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(54) Title: **HIGH RESOLUTION ELECTROLYTIC LITHOGRAPHY, APPARATUS THEREFOR AND RESULTING PRODUCTS**



(57) Abstract: In accordance with the invention, a surface of a substrate is patterned by the steps of providing the substrate, covering the surface with electrolyte, and disposing at least one nanoscale electrode in the electrolyte adjacent the surface. A current is then applied between the electrode and the substrate to electrolytically deposit material on or remove material from the surface. The material is deposited or removed in a pattern dependent on the pattern, movement and shape of the nanoscale electrodes. Apparatus for this process and novel products therefrom are also described.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/10489

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C25D 5/02
 US CL : 205/118,122,136

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 205/118,122,136

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---------------|---|--|
| X --- Y | US 2002/0046953 A1 (LEE et al) 25 April 2002 (25.04.2002), paragraphs [0045] to [0056]. | 1-3,5,7,10-15,18-21,25 ----- 26-30 |
| X | US 5,865,978 A (COHEN) 02 February 1999 (02.02.1999), column 3, line 28 to column 14, line 28. | 1-17,19,20,22-24 |
| Y | US 5,780,101 A (NOLAN et al) 14 July 1998 (14.07.1998), column 8, lines 30-41. | 26 |
| Y | US 6,283,812 B1 (JIN et al) 04 September 2001 (04.09.2001), column 7, lines 47-52 and column 12, lines 34-44. | 27,28 |
| Y | EP 1122759 A2 (SAMSUNG SDI CO.) 08 August 2001 (08.08.2001), paragraphs [0008] to [0017]. | 29 |
| Y | US 2002/0172820 A1 (MAJUMDAR et al) 21 November 2002 (21.11.2002), paragraphs [0029] and [0109]. | 30 |

☐ Further documents are listed in the continuation of Box C.


See patent family annex.

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"Y"

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"&"

document member of the same patent family

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PCT/US04/10489

Continuation of B. FIELDS SEARCHED Item 3:

EAST: nanotube, nanowire, nanoelectrode, plasma display cell, field emission display, magnetic recording media, quantum dot